

AGRICULTURE

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ILLINOIS HYBRID CORN TESTS 1943

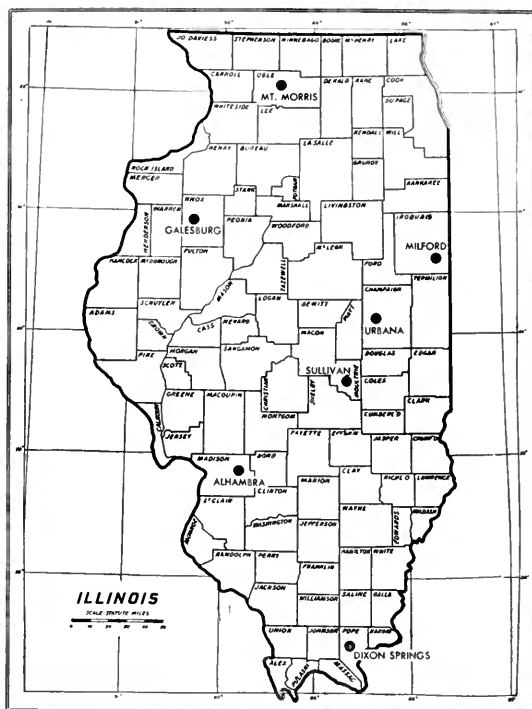


Bulletin 500

**UNIVERSITY OF ILLINOIS
AGRICULTURAL EXPERIMENT STATION**

In cooperation with
DIVISION OF CEREAL CROPS AND DISEASES, BUREAU OF
PLANT INDUSTRY, U. S. DEPARTMENT OF AGRICULTURE, AND
ILLINOIS STATE NATURAL HISTORY SURVEY

Location of
1943 test
fields



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ILLINOIS HYBRID CORN TESTS 1943

By G. H. DUNGAN, J. H. BIGGER, A. L. LANG,
OREN BOLIN, and BENJAMIN KOEHLER¹

HYBRID CORN was planted on all but 4 percent of the corn acreage in Illinois in 1943. In spite of a wet, backward spring which prevented early planting, the average corn yield of the state was estimated to be 50 bushels an acre.²

Six corn crops have now been grown in the state since the hybrid-corn acreage reached 50 percent of the total corn acreage. The yield of corn for these six years was 49.6 bushels an acre, contrasted with a 33.6-bushel average for the previous six years. The difference, 16 bushels, almost one-third of the present yield, can be credited mainly to the use of hybrid corn.

SCOPE OF THE TESTS

Two hundred eight hybrids and no open-pollinated varieties were grown on seven Illinois corn-performance test fields in 1943. Twenty-nine companies and individuals, including the Kansas as well as the Illinois Agricultural Experiment Station, furnished the seed for the tests.

The number of hybrids tested on each field was 60 at Mt. Morris, Galesburg, and Milford; 59 at Sullivan and Alhambra; 59 on the bottomland field at the Dixon Springs Experiment Station and 14 on the upland field.

Seed samples were taken direct from the warehouses of the producers entering the corn, except in a few instances where the producers delivered small quantities to the Experiment Station. Seed of Illinois and United States hybrids in commercial production was obtained from the Illinois Crop Improvement Association. The seed of each hybrid was taken from a composite of all the samples of that hybrid which were submitted for the laboratory test required for certification.

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²Estimates for the acreage of hybrid corn and the average yield for the state were furnished by the ILLINOIS COOPERATIVE CROP REPORTING SERVICE, Illinois State Department of Agriculture cooperating with the U. S. Department of Agriculture.

Table 1.—GENERAL INFORMATION: Illinois Cooperative Corn Performance Tests, 1943

Location of field	County	Cooperator	Number of entries	Date planted	Date harvested	Average acre-yield all entries	
						Total	Sound
N—Mt. Morris..Ogle.....		Earl Kump.....	60	May 26	Nov. 2	bu. 80.2	bu. 79.9
WNC—Galesburg...Knox.....		Earl Gehring..... Webster Gehring.....	60	May 28	Oct. 27	112.9	111.1
ENC—Milford.....Iroquois...		Crow's Hybrid Corn Company.....	60	May 31	Nov. 16	79.7	78.6
SC—Sullivan.....Moultrie..		Masonic Home Farm, Monroe Wilson, Mgr.	59	May 29	Oct. 28	88.8	88.2
S—Alhambra...Madison..		Illinois Agricultural Experiment Station..	59	June 3	Oct. 21	43.2	43.1
ES—Robbs.....Pope.....		Dixon Springs Experiment Station, Lauderdale, bottom.....	59	June 4	Oct. 19-20	53.5	52.4
		Upland.....	14	June 4	Oct. 19	35.2	34.7

Most of the entries represented extensively grown hybrids, including both Experiment Station and proprietary hybrids. A relatively small number of Experiment Station hybrids that had yielded high in preliminary tests and which, therefore, were believed to have promise for commercial production were included. A few hybrids were put in the tests mainly to meet the field-performance requirement for certification.

SOIL CHARACTERISTICS OF FIELDS

The fields chosen for the 1943 tests were medium to high in productivity. In locating a field, effort was made to select a soil type common to the region represented by the field. Furthermore, care was taken to have each field as nearly uniform as possible, both in soil type and in drainage conditions. The test field on the bottomland at the Dixon Springs Experiment Station was the most variable in productivity, and the Alhambra field contained a number of "slick spots."

The approximate location of the test fields is shown by the map on page 102. General information on soil characteristics and soil management is given in Table 2.

METHOD OF PLANTING

All test plots were planted by hand on land prepared in the regular way for corn. Each plot consisted of 2 rows 10 hills long, except on the bottomland field at Dixon Springs, where the plots on five replications were 2 rows wide and only 8 hills long. Three kernels were dropped in

Table 2.—TESTING FIELDS: Soil Characteristics and Management Practices

Soil type	Lime require- ment	Available phosphorus	Available potassium	Previous crops and soil management
Northern: Mt. Morris				
	<i>tons</i>			
Tama silt loam.....	3	Low	Low	Small grain 1941, clover-timothy pasture 1942, light application of manure for corn
West North-central: Galesburg				
Muscatine silt loam.....	None	Low to high	High	Bluegrass pasture 1871-1937, corn 1938-1940, oats-rape pasture 1941, corn 1942, limestone applied 1942
East north-central: Milford				
Mixed Milford and Drummer clay loam and Brenton silt loam	2	High	Low	Alfalfa meadow 1941, 1942, rock phosphate applied for alfalfa
South-central: Sullivan				
Flanagan silt loam.....	2	High	Medium	Corn 1938, oats 1939, sweet clover 1940, manured, corn 1941, corn 1942
Southern: Alhambra				
Putnam silt loam.....	None	High	Low	Oats (sweet clover) 1940, soybeans 1941, wheat (sweet clover) 1942
Extreme southern: Dixon Springs				
Upland field: Ava silt loam.....	None	High	Low	Soybeans 1940, winter grain 1941, sweet and red clover 1942. Limestone and phosphate applied 1940
Bottomland field: Bonnie silt loam.....	2	Low	Low	Crimson clover and vetch 1941, corn 1942, no soil treatment

R. S. SMITH, Chief in Soil Physics and Soil Survey, determined the soil type, uniformity, and physical characteristics of the Galesburg and Milford fields, the two new fields used in the 1943 tests.

each hill except on the Dixon Springs field, where only 2 kernels were planted. Six plots of each entry arranged in controlled random order were planted on all fields, and data from all plots were included in the results except at Alhambra, where some were thrown out because of very poor stands. Such exceptions are indicated in the tables.

The only correction for imperfect stand was an adjustment for missing hills.

SEASONAL CONDITIONS

The spring of 1943 was very unfavorable for corn. Weather beginning on May 7 was wet continuously for about 2½ weeks. The amount of rainfall varied widely from one section of the state to another. The

northern and western parts of the state did not get as many inches of rain as other sections and the rainy period was not of as long duration.

Corn planted the first week of May had to be replanted because of poor stands and weak, unthrifty plants. As shown in Table 1, all test fields were planted after May 25. Conditions following planting of the test fields were favorable except at Alhambra, where heavy rains in early June drowned out the corn in parts of the field and lowered the vigor of the plants generally. The surviving plants never recovered from this early setback, as evidenced by the low yields. Too little rainfall during August lowered the yields on the Sullivan and Alhambra fields.

Growing conditions were extremely favorable for the growing and maturing of the corn crop.

INSECT PESTS

Southern corn rootworm. Weather conditions during May were very favorable for the development of the southern corn rootworm, *Diabrotica duodecimpunctata* (F.), and the insect took full advantage of its opportunity. Wet weather delayed corn planting to such an extent that the plants were very small when attacked. The result was a situation which seldom develops in Illinois. The larvae attacking the small plants burrowed into the base of the stem at ground level and, especially in the north-central portion of the state, damaged the growing point of many plants in some fields. This is a type of injury which often occurs in the southern states, but had not occurred to any marked extent in Illinois since the summer of 1927.

Injury to corn later in the season was not so extensive, and only one of the test fields had enough lodging, because of rootworm attack, to warrant careful study. Even this field, at Galesburg, was not as severely damaged as many fields in previous years. Lodging due to rootworm attack ranged from 1.8 to 24.9 percent; the average of all entries on the field was 8.9 percent. The records are given in Table 5. As indicated in a footnote at the bottom of the table, a difference of less than 7.9 percent in lodging is not significant. On this basis there are no significant differences among the first 28 hybrids.

Measuring lodging. The lodging data were taken so as to show: (1) plants leaning 30 degrees or more and (2) plants leaning more than 45 degrees. The resistance rating takes both classes into account. The lodging score was obtained by taking half the percentage of plants leaning 30 degrees or more and adding to that the percentage of plants leaning more than 45 degrees. The scores obtained in this manner tend to lessen the importance of slight leaning and to emphasize the importance of severe leaning. The average lodging score for the field was then obtained; and finally resistance rating was computed by

dividing the average lodging score for the field by the lodging score for each hybrid and multiplying by 100. The resulting figures, expressed as percentages, are shown in Table 5.

European corn borer. During the 1943 season the European corn borer, *Pyrausta nubilalis* (Hbn.), increased markedly in abundance in the northern one-fourth of the state, increased to a smaller extent in the central counties, and decreased somewhat in the eastern counties. The intensity of the infestation was also greater in the northern portion of the state, but could easily be equaled in the rest of the corn-producing area during 1944 if weather conditions in that area are favorable to the borer.

At none of the test fields was infestation or damage very high. The most damage occurred at Milford, Galesburg, and Mt. Morris. At Galesburg an average of 1.6 percent of the plants were broken as a result of corn borer damage, breakage ranging from 0 to 4.0 percent. At Mt. Morris an average of 4.1 percent of the plants were broken, the range being from 0 to 15.9 percent. At Milford the average breakage was 5.6 percent, with a range of 1.3 to 14.4 percent. Records from the Mt. Morris and Milford fields are included in Tables 7 and 8.

Chinch bug. There was a minor outbreak of chinch bugs, *Blissus leucopterus* (Say), in the central counties, about an acre of corn per field being lost in a few counties. Conditions were favorable for using the dinitro dust barrier, which proved successful and popular with its users.

Grape colaspis. Considerable loss of corn due to attack by the grape colaspis, *Colaspis brunnea* (F.), occurred over a wide area in the state. The damage showed up later than usual because the development of the insect was delayed by the cold, wet soil conditions. Damage was less in soils where there was an abundance of available phosphorus.

DISEASE DAMAGE

Root rots and Diplodia stalk rot caused considerable damage in Illinois cornfields in 1943.

Root rots. Beginning with the seedling stage and persisting thruout the season, root rot was much more active than usual in many fields. Pythium was identified as the causal fungus in the early part of the season, and later a number of other fungi were also associated with the root rot. At harvest time hills could be easily pulled up with one hand in many fields; but as a result of fair, dry weather during most of the fall, lodging due to root rots was for the most part not serious.

The very wet weather during May was no doubt responsible for the unusual extent of root rot. Where drainage was good and the ground

could be worked into loose condition after the rainy period closed and before the corn was planted, only a little root rot occurred. Heavy rains that compacted the soil and drove out the air made conditions favorable for root rot.

Diplodia stalk rot. Premature dying of plants early in September from *Diplodia* stalk rot was observed in many fields thruout most of Illinois. Thru central and northern Illinois, appreciable loss in yield occurred in some fields and there was also serious lodging from broken stalks. In south-central and southern Illinois the situation was complicated on many farms by premature dying of stalks due to drouth.

Stewart's disease. The leaf blight phase of Stewart's disease was more prevalent than usual in field corn. The early-season symptoms in sweet corn were rare, but the disease built up to a high point by September, so that some early hybrids planted for experimental purposes on the Station farm at Urbana in late July were almost entirely killed by it.

Helminthosporium leaf blight. Specimens of *Helminthosporium* leaf blight could be found thruout the state in 1943, but the disease caused no appreciable damage. Severe losses occurred in southeastern Indiana, southern Ohio, and eastward; and some growers fear that the blight may strike Illinois severely. It seems probable, however, that summer humidity in Illinois is ordinarily too low for this disease to be of importance.

Smut. Smut damage to corn in Illinois was lighter than usual in 1943, the estimated loss in yield being about 1 percent.

Ear rots. Kernel damage from ear rot diseases was of small importance. Damage determinations in the various entries in the performance tests ranged from 0 to 5.2 percent. No. 2 corn allows for 5 percent kernel damage. *Diplodia zeae* was the principal cause of kernel rot this season, with *Fusarium moniliforme* a close second.

MEASURING PERFORMANCE

The entries in the 1943 test are listed in the tables in the order of their total yields. Two or more entries having the same total yield are given the same rating, but the one having the higher yield of sound corn is placed first. Those having the same total yield and sound yield are placed in order by percentage of erect plants.

Erect plants. The percentage of erect plants in each entry on each field was estimated at the time of harvest. The rating for erect plants of an entry is the ratio of the percentage of erect plants of that entry to the average percentage of erect plants on the field, multiplied by 100.

Lodging may have been due to rootworm damage, weak or rotted roots, corn borer damage, or weak stalks. Stalks broken above the ear were not considered lodged.

Sound corn. To determine shelling percentage, all the ears from one replicate of each entry were shelled. From this shelled corn one sample was taken to determine the percentage of moisture at harvest and another to determine the percentage of damaged kernels. The moisture determinations were made, for the most part, with a Tag-Heppenstall moisture meter, altho those for one field were made with a Stinelite moisture tester. The percentage of damaged corn was determined according to the federal grain standards.

The total acre-yield was calculated as shelled corn containing 15.5 percent moisture, the upper limit allowable in No. 2 corn. The yield of sound corn was computed by deducting the amount of damaged corn from the total yield.

The rating on sound yield is the ratio, expressed as percentage, of the yield of sound corn from that entry to the average yield of sound corn from all the entries on the field.

Height of ear. Notes on comparative ear height were taken at harvest time. Each plot of each entry, except at Alhambra, was placed in one of the five following categories: low, mid-low (midway between low and medium), medium, mid-high (midway between medium and high), and high. Beginning with low and continuing progressively to high, these terms were assigned numerical values from 1 to 5 to permit the averaging of the plots.

Chance differences. Too much confidence must not be placed in the exact ranking of a hybrid in the following tables, for chance has played a part in determining its position. Unaccountable variability in the soil and conditions on the field will cause differences in yield that are not inherent in the hybrids themselves.

The part played by chance in the 1943 tests has been calculated for total yield by the mathematical procedure known as "analysis of variance." At the bottom of each table is stated the approximate difference there must be between any two entries in order for them to show a true inherent difference. Unless two hybrids differ by at least this amount, there is no assurance that one hybrid is inherently higher yielding than the other.

Readers are urged to note the difference necessary for significance, as shown for each test field, and to keep that difference constantly in mind in all comparisons of hybrids on that field.

Table 3.—NORTHERN ILLINOIS: Mt. Morris

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for—		Compara- tive height of ear
		Total	Sound				Erect plants	Sound yield	
		<i>bu.</i>	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	
1	Nichols Hybrid 5A.....	94.1	93.5	.6	25.3	97.1	100.6	117.1	Medium
2	Funk Hybrid G-30.....	91.3	89.4	2.1	28.5	98.0	101.6	112.0	Medium
3	Pfister Hybrid 366.....	89.2	89.0	.2	24.8	92.3	95.7	111.5	M-high
4	Crow Hybrid 360.....	87.8	87.1	.8	28.5	94.8	98.3	109.1	M-high
5	Pfister Hybrid 260.....	86.7	86.5	.0	25.5	94.0	97.4	108.6	Medium
6	Pioneer Hybrid 342.....	86.7	85.6	1.0	23.6	96.5	100.0	107.2	M-high
7	DeKalb Hybrid 404A.....	86.2	85.9	.4	24.8	96.0	99.5	107.6	M-high
7	Illinois Hybrid 2149(W).....	86.2	84.9	1.5	22.4	93.3	96.7	106.3	High
9	Producers' Hybrid 909.....	86.1	85.1	1.2	28.5	97.3	100.8	106.6	High
10	Illinois Hybrid 751.....	85.3	85.1	.2	26.9	98.7	102.3	106.6	Medium
10	Illinois Hybrid 101.....	85.3	85.0	.4	24.5	94.0	97.4	106.4	Medium
12	Pfister Hybrid 4897.....	85.0	84.8	.2	24.3	96.8	100.3	106.2	M-low
13	Pioneer Hybrid 324A.....	84.9	84.7	.2	23.4	95.5	99.0	106.1	Medium
14	Funk Hybrid G-114.....	84.8	84.5	.4	28.0	94.5	97.9	105.8	Medium
15	Farmercraft Hybrid 42.....	84.6	83.2	1.7	29.7	96.5	100.0	104.2	Medium
16	Pfister Hybrid 280.....	83.7	83.0	.8	29.1	96.1	99.6	103.9	M-high
17	Nichols Hybrid Victory.....	83.6	83.5	.1	25.8	99.1	102.7	104.6	M-high
17	Pfister Hybrid 274.....	83.6	83.3	.3	23.4	95.6	99.1	104.3	M-high
19	Illinois Hybrid 1183B.....	83.1	82.4	.8	23.2	97.1	100.6	103.2	Medium
20	DeKalb Hybrid 458.....	83.0	82.8	.2	24.5	96.8	100.3	103.7	M-low
20	Pioneer Hybrid 322.....	83.0	82.7	.4	22.8	97.3	100.8	103.6	Medium
22	Illinois Hybrid 1184A.....	82.7	82.2	.6	26.6	97.8	101.4	102.9	M-low
22	Producers' Hybrid 1010.....	82.7	82.0	.8	26.6	96.3	99.8	102.7	Medium
24	Doubet Hybrid D-1.....	82.6	82.4	.2	25.3	98.3	101.9	103.2	M-high
24	Moews Hybrid 14.....	82.6	82.1	.6	26.9	98.5	102.1	102.8	M-low
24	DeKalb Hybrid 422.....	82.6	82.1	.6	26.7	94.8	98.3	102.8	Medium
24	DeKalb Hybrid 615.....	82.6	81.9	.8	24.0	95.0	98.5	102.6	Medium
28	Hoosier-Crost Hybrid F-138.....	82.4	81.2	1.5	24.8	93.5	96.9	101.7	Medium
29	Furr Hybrid 67A.....	81.8	81.6	.3	24.5	95.5	99.0	102.2	M-low
30	Pioneer Hybrid 341.....	80.8	80.5	.4	24.8	97.6	101.2	100.8	Medium
31	Nichols Hybrid 202A.....	80.7	80.5	.3	23.2	97.3	100.8	100.8	M-low
32	Pioneer Hybrid 330.....	80.1	79.8	.4	25.3	97.0	100.5	99.9	Medium
33	Nichols Hybrid 202.....	79.2	78.9	.4	23.6	98.0	101.6	98.8	M-low
34	Funk Hybrid G-23.....	79.1	78.8	.4	25.5	98.5	102.1	98.7	M-low
35	DeKalb Hybrid 410.....	78.8	78.2	.8	22.4	96.1	99.6	97.9	Low
36	Funk Hybrid G-29.....	78.6	78.1	.6	28.1	97.5	101.1	97.8	M-low
36	Funk Hybrid G-16.....	78.6	78.0	.8	25.5	97.5	101.1	97.7	M-low
38	DeKalb Hybrid 450.....	78.4	77.9	.7	26.5	97.3	100.8	97.6	M-low
39	Pioneer Hybrid 353A.....	78.2	78.0	.2	22.1	96.3	99.8	97.7	M-high
40	Doubet Hybrid D-25.....	77.9	75.1	3.6	30.3	98.8	102.4	94.1	Medium
41	Illinois Hybrid 1180.....	77.1	76.9	.2	24.0	96.8	100.3	96.3	M-low
41	Hoosier-Crost Hybrid F-140.....	77.1	76.6	.6	23.4	95.5	99.0	95.9	M-low
43	Illinois Hybrid 2147(W).....	76.8	76.3	.7	20.9	89.5	92.8	95.6	High
44	Lowie Hybrid 14.....	76.3	75.8	.6	28.1	97.1	100.6	94.9	Medium
45	Producers' Hybrid 1020.....	76.0	75.8	.3	24.8	96.8	100.3	94.9	M-low
46	Lowwealth Hybrid AF-11.....	75.8	75.6	.3	24.8	97.8	101.4	94.7	Medium
46	Lowie Hybrid 15.....	75.8	75.3	.7	25.8	97.6	101.2	94.3	M-low
48	Hoosier-Crost Hybrid 405.....	75.7	75.5	.2	26.5	96.5	100.0	94.6	M-low
48	Crow Hybrid 432.....	75.7	74.0	2.3	26.5	95.1	98.6	92.7	Medium
50	Farmercraft Hybrid 39.....	75.3	75.1	.3	22.8	97.6	101.2	94.1	M-low
51	Crow Hybrid 514(W).....	75.1	74.2	1.2	23.6	93.8	97.2	92.9	High
52	Moews Hybrid 15.....	74.4	74.3	.2	22.4	96.3	99.8	93.0	M-low
53	Pioneer Hybrid 340.....	74.3	73.9	.5	25.3	98.0	101.6	92.5	Medium
54	DeKalb Hybrid 443.....	73.8	73.6	.3	25.8	98.5	102.1	92.2	M-low
55	Furr Hybrid 66A.....	72.9	72.3	.8	23.8	97.0	100.5	90.5	Low
56	Funk Hybrid G-67.....	72.6	72.2	.6	27.5	95.5	99.0	90.4	Medium
57	Funk Hybrid G-31.....	72.2	72.1	.2	24.0	98.1	101.7	90.3	M-low
57	Illinois Hybrid 219.....	72.2	71.3	1.2	28.1	98.3	101.9	89.3	Medium
59	Furr Hybrid 44A.....	70.2	69.4	1.2	26.7	98.5	102.1	86.9	M-low
60	Furr Hybrid 77A.....	69.8	69.5	.4	26.5	95.6	99.1	87.0	M-low
Average of all entries.....		80.4	79.9	.7	25.4	96.5	.....	.....	.....

A difference of less than 9.6 bushels between total yields of any two entries in this table is not significant.

Table 4.—WEST NORTH-CENTRAL ILLINOIS: Galesburg

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for—		Compara- tive height of ear
		Total	Sound				Erect plants	Sound yield	
		bu.	bu.	perct.	perct.	perct.	perct.	perct.	
1	Crow Hybrid 633	123.7	121.7	1.6	20.4	91.0	97.9	109.5	Medium
2	Producers' Hybrid 1000	121.1	120.9	.2	22.4	97.0	104.4	108.8	M-high
3	Pfister Hybrid 5897	120.2	119.8	.3	20.4	92.0	99.0	107.8	M-low
3	Morgan Hybrid 546	120.2	119.1	.9	22.2	97.3	104.7	107.3	M-high
5	DeKalb Hybrid 800A	120.0	113.5	5.4	22.2	95.1	102.3	102.1	Medium
6	Producers' Hybrid 1040	119.5	118.5	.8	22.2	91.3	98.2	106.6	M-high
7	DeKalb Hybrid 680	119.4	118.3	.9	22.6	88.6	95.3	106.5	Medium
8	Illinois Hybrid 246	119.2	116.8	2.0	22.4	92.8	99.8	105.1	M-high
9	National Hybrid 125	118.8	118.1	.6	21.3	93.8	100.9	106.3	Medium
10	Funk Hybrid G-32	118.5	116.6	1.6	21.0	96.1	103.4	104.9	Medium
11	Funk Hybrid G-37	118.0	116.8	1.0	20.4	98.3	105.8	105.1	M-high
12	Pioneer Hybrid 339	117.8	114.9	2.5	21.0	96.5	103.8	103.4	Medium
13	DeKalb Hybrid 827	117.6	113.4	3.6	22.8	93.3	100.4	102.0	Medium
14	Pioneer Hybrid 334	117.2	116.3	.8	20.1	92.6	99.6	104.7	M-high
14	Funk Hybrid G-169	117.2	116.1	.9	22.2	95.0	102.2	104.5	M-high
16	Doubet Hybrid D-42	117.1	115.7	1.2	22.4	93.8	100.9	104.1	M-high
17	DeKalb Hybrid 817A	117.0	114.7	2.0	22.4	98.1	105.5	103.2	Medium
18	DeKalb Hybrid 628A	116.8	114.1	2.3	22.4	91.0	97.9	102.7	M-high
19	U. S. Hybrid 13	116.6	115.6	.9	23.4	96.6	103.9	104.0	M-high
20	DeKalb Hybrid 840	116.4	115.2	1.0	23.4	90.5	97.4	103.7	Medium
21	Appl Hybrid A-336	115.7	111.8	3.4	23.0	93.5	100.6	100.6	M-high
22	Illinois Hybrid 21	115.6	114.7	.8	21.3	96.6	103.9	103.2	M-low
23	DeKalb Hybrid 816	115.2	112.9	2.0	22.6	95.0	102.2	101.6	High
24	Holmes Utility Hybrid 29	114.9	113.6	1.1	21.6	96.6	103.9	102.2	Medium
25	Hoosier-Crost Hybrid 840	114.9	109.3	4.1	24.6	95.5	102.7	98.4	Medium
26	Pfister Hybrid 380	113.9	112.8	1.0	21.6	95.6	102.8	101.5	Medium
27	Morgan Hybrid 52	113.4	112.9	.4	20.7	86.5	93.1	101.6	Medium
28	Doubet Hybrid D-72	113.0	112.1	.8	21.6	93.0	100.1	100.9	M-low
28	Crow Hybrid 607	113.0	108.6	3.9	23.0	88.8	95.5	97.7	M-high
30	Iowa Hybrid 25	112.9	112.4	.4	22.2	92.8	99.8	101.1	M-high
30	Pioneer Hybrid 331	112.9	109.1	3.4	21.0	94.6	101.8	98.3	M-high
32	Farmcraft Hybrid 42	112.5	111.9	.5	21.6	98.5	106.0	100.7	M-low
32	Farmcraft Hybrid 47	112.5	107.7	4.3	20.4	86.0	92.5	96.9	M-low
34	Hoosier-Crost Hybrid 668	112.3	109.6	2.4	23.0	96.6	103.9	98.6	Medium
35	Null Hybrid N-16	112.2	111.6	.5	22.4	96.6	103.9	100.4	M-high
36	Illinois Hybrid 201	112.0	111.7	.3	23.0	94.1	101.2	100.5	M-high
36	Holmes Utility Hybrid 64	112.0	111.4	.5	23.4	95.1	102.3	100.2	Medium
36	Funk Hybrid G-104	112.0	110.9	1.0	21.9	91.6	98.5	99.8	M-high
39	Stiegelmeier Hybrid 380	111.6	109.9	1.5	21.6	88.6	95.3	98.9	M-low
40	Morgan Hybrid 52A	111.0	110.2	.7	22.2	84.0	90.4	99.2	High
41	Producers' Hybrid FCXX	110.8	109.5	1.2	23.8	94.8	102.0	98.5	M-high
42	Pfister Hybrid 1897	110.7	109.7	.9	20.4	93.7	100.8	98.7	Medium
43	Producers' Hybrid 1030	110.2	108.9	1.2	22.4	91.8	98.8	98.0	Medium
44	Illinois Hybrid 972	110.1	103.7	1.3	21.0	94.1	101.2	97.8	M-high
45	Moews Hybrid 550	109.7	108.1	1.5	21.0	92.0	99.0	97.3	M-low
46	Stiegelmeier Hybrid 360	109.5	109.0	.5	22.2	79.6	85.6	98.1	M-high
46	Funk Hybrid G-67	109.5	107.3	2.0	22.4	97.6	105.0	96.6	Medium
48	Moews Hybrid 523	109.2	108.1	1.0	21.0	92.5	99.5	97.3	M-high
49	Lowe Hybrid 520	108.7	105.0	3.4	23.8	93.1	100.2	94.5	Medium
49	Moews Hybrid 14	108.7	105.2	3.2	21.0	93.5	100.6	94.7	Low
51	Pfister Hybrid 360	107.3	105.8	1.4	20.4	86.5	93.1	95.2	Medium
52	Stiegelmeier Hybrid S-200	107.2	105.7	1.4	25.1	93.0	100.1	95.1	Medium
53	Pioneer Hybrid 333	106.2	105.1	1.0	21.6	96.5	103.8	94.6	M-high
54	Pioneer Hybrid 330	105.9	104.8	1.0	19.4	97.6	105.0	94.3	M-low
55	Lowe Hybrid 560	104.7	102.4	2.2	21.9	92.6	99.6	92.1	Medium
56	Moews Hybrid 120	104.1	100.2	3.7	22.4	95.5	102.7	90.2	Medium
57	Crow Hybrid 514(W)	103.8	103.2	.6	18.3	83.8	90.2	92.9	High
58	Funk Hybrid G-30	103.6	100.0	3.5	21.0	89.5	96.3	90.0	Medium
59	Funk Hybrid G-103	103.3	101.4	1.8	23.4	96.6	103.9	91.2	M-low
60	U. S. Hybrid 44	99.7	98.5	1.2	21.0	82.5	88.8	88.6	M-high
Average of all entries		112.9	111.1	1.6	21.9	93.0	....	....	....

A difference of less than 4.2 bushels between total yields of any two entries in this table is not significant.

Table 5.—WEST NORTH-CENTRAL ILLINOIS: Galesburg,
Resistance to Lodging That Was Caused by the Feeding
of the Southern Corn Rootworms¹ 1943

Rank	Entry	Plants leaning 30 degrees or more ²	Plants leaning more than 45 degrees	Resistance rating compared with average ³
		perct.	perct.	
1	Pioneer Hybrid 330.....	1.8	.3	442
2	Morgan Hybrid 546.....	2.7	0	379
3	Funk Hybrid G-37.....	2.9	0	353
3	Funk Hybrid G-32.....	2.9	0	353
3	Null Hybrid N-16.....	2.9	0	353
6	Producers' Hybrid 1000.....	3.5	0	294
7	DeKalb Hybrid 817A.....	3.8	0	279
8	Funk Hybrid G-67.....	3.9	0	265
9	Holmes Utility Hybrid 29.....	4.7	0	221
9	Hoosier-Crost Hybrid 668.....	4.1	.3	221
11	DeKalb Hybrid 800A.....	4.9	0	212
11	Funk Hybrid G-103.....	4.4	.3	212
13	Pioneer Hybrid 334.....	5.0	.3	189
13	Pioneer Hybrid 333.....	4.4	.6	189
15	U. S. Hybrid 13.....	5.8	0	183
16	Pfister Hybrid 5897.....	4.7	.9	161
17	Moews Hybrid 120.....	5.5	.6	156
17	Producers' Hybrid FCXX.....	5.5	.6	156
17	Illinois Hybrid 246.....	4.9	.9	156
20	DeKalb Hybrid 816.....	6.9	0	151
20	Holmes Utility Hybrid 64.....	5.8	.6	151
22	Funk Hybrid G-169.....	7.2	0	147
23	Lowe Hybrid 560.....	7.6	0	139
23	Illinois Hybrid 21.....	6.9	.3	139
23	Appl Hybrid A-336.....	7.0	.3	139
23	Farmcraft Hybrid 42.....	6.3	.6	139
27	Iowealth Hybrid 25.....	7.4	.3	133
28	DeKalb Hybrid 827.....	6.3	.9	129
29	National Hybrid 125.....	8.3	0	126
30	Hoosier-Crost Hybrid 840.....	8.6	0	123
30	Pioneer Hybrid 331.....	8.0	.3	123
32	Doubet Hybrid D-42.....	7.6	.8	115
33	Moews Hybrid 550.....	8.3	.6	110
34	Crow Hybrid 633.....	9.7	0	108
34	Doubet Hybrid D-72.....	6.2	1.8	108
36	Moews Hybrid 523.....	9.3	.3	106
37	DeKalb Hybrid 840.....	8.6	.9	102
38	Pfister Hybrid 380.....	9.2	.9	96
39	Pioneer Hybrid 339.....	10.6	.3	95
39	Funk Hybrid G-104.....	8.7	1.2	95
41	Morgan Hybrid 52.....	11.4	0	93
42	Producers' Hybrid 1040.....	10.4	.6	91
43	Producers' Hybrid 1030.....	9.9	.9	90
44	DeKalb Hybrid 628A.....	10.2	.9	88
44	Lowe Hybrid 520.....	7.8	2.1	88
46	Illinois Hybrid 972.....	10.8	.9	84
47	Illinois Hybrid 201.....	9.1	1.8	83
48	Pfister Hybrid 1897.....	9.6	1.9	79
49	Funk Hybrid G-30.....	12.6	.6	77
50	Stiegelmeier Hybrid S-200.....	13.9	1.8	60
51	Moews Hybrid 14.....	16.1	1.2	57
52	Stiegelmeier Hybrid 380.....	17.0	1.5	53
53	Stiegelmeier Hybrid 360.....	19.4	.6	51
54	Crow Hybrid 514(W).....	16.9	2.3	49
55	Pfister Hybrid 360.....	15.9	2.9	48
56	DeKalb Hybrid 680.....	16.8	2.8	47
57	Farmcraft Hybrid 47.....	17.0	3.7	43
58	Morgan Hybrid 52A.....	20.2	2.6	42
59	Crow Hybrid 607.....	20.6	3.8	38
60	U. S. Hybrid 44.....	24.9	3.6	33
	Average of all entries.....	8.9	.9	...

¹*Diabrotica duodecimpunctata* (F.).

²A difference of less than 7.9 in this column is not significant.

³High rating indicates better standing ability.

Table 6.—EAST NORTH-CENTRAL ILLINOIS: Milford

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for—		Compara- tive height of ear
		Total	Sound				Erect plants	Sound yield	
		bu.	bu.	perct.	perct.	perct.	perct.	perct.	
1	Null Hybrid N-54.....	90.0	88.5	1.7	19.6	93.1	99.2	112.5	High
2	DeKalb Hybrid 816.....	87.7	87.5	.2	19.7	91.3	97.2	111.3	M-high
3	Stiegelmeier Hybrid S-200.....	86.9	85.9	1.1	20.3	93.8	99.9	109.2	M-high
4	Stiegelmeier Hybrid 380.....	85.3	83.6	2.0	20.2	94.3	100.4	106.3	M-low
5	Pfister Hybrid 4817.....	85.2	84.9	.3	19.2	93.0	99.1	108.0	Medium
6	Funk Hybrid G-94.....	84.5	83.6	1.1	19.0	93.6	99.7	106.3	M-high
7	Farmcraft Hybrid 89.....	84.4	82.5	2.2	18.4	91.1	97.0	104.9	Medium
8	DeKalb Hybrid 800A.....	84.3	83.5	1.0	19.0	92.8	98.8	106.2	M-high
8	Funk Hybrid G-169.....	84.3	83.4	1.1	18.8	91.1	97.0	106.0	M-high
10	Seeber Hybrid 11A.....	83.4	82.3	1.3	18.8	94.5	100.7	104.6	M-high
11	Producers' Hybrid 1030.....	83.3	82.8	.6	20.0	95.3	101.5	105.3	M-high
11	Pfister Hybrid 280.....	83.3	81.1	2.6	49.7	95.3	101.5	103.1	M-low
13	Moews Hybrid 830.....	83.1	82.4	.9	17.2	91.1	97.0	104.8	Medium
14	Holmes Utility Hybrid 39.....	82.8	82.5	.4	19.7	96.1	102.4	104.9	Medium
14	Illinois Hybrid 200.....	82.8	81.9	1.1	21.1	88.6	94.4	104.1	M-high
16	Producers' Hybrid 1040.....	82.7	82.0	.8	21.0	96.0	102.2	104.3	Medium
17	Pfister Hybrid 380.....	82.5	82.3	.3	19.5	96.8	103.1	104.6	M-low
18	Doubet Hybrid D-47.....	82.1	80.9	1.5	19.3	94.1	100.2	102.9	Medium
19	Illinois Hybrid 21.....	82.0	80.5	1.8	20.2	92.1	98.1	102.4	Medium
19	DeKalb Hybrid 817A.....	82.0	80.2	2.2	19.3	94.6	100.8	102.0	Medium
19	Producers' Hybrid FCXX.....	82.0	79.9	2.6	18.9	89.6	95.4	101.6	M-high
22	DeKalb Hybrid 840.....	81.8	80.0	2.2	19.7	93.3	99.4	101.7	Medium
22	Pioneer Hybrid 332.....	81.8	79.4	2.9	23.2	90.6	96.5	101.0	M-high
24	DeKalb Hybrid 628A.....	81.4	80.7	.8	22.0	97.0	103.3	102.6	M-high
25	Funk Hybrid G-103.....	81.3	79.6	2.1	18.4	96.1	102.4	101.2	Low
26	National Hybrid 125.....	81.0	80.8	.3	19.9	96.1	102.4	102.7	Medium
26	U. S. Hybrid 35.....	81.0	80.4	.8	20.7	94.6	100.8	102.2	Medium
26	Illinois Hybrid 201.....	81.0	80.2	1.0	18.7	94.0	100.1	102.0	M-high
29	Funk Hybrid G-104.....	80.6	79.1	1.9	19.8	95.1	101.3	100.6	Medium
30	Producers' Hybrid 1000.....	80.3	79.3	1.2	19.6	95.3	101.5	100.8	Medium
30	Funk Hybrid G-37.....	80.3	78.0	2.9	18.5	93.6	99.7	99.2	Medium
32	Crow Hybrid 633.....	80.2	79.7	.6	20.1	94.3	100.4	101.3	M-low
32	Pfister Hybrid 5897.....	80.2	79.5	.9	18.0	98.5	104.9	101.1	M-low
34	Sibley Hybrid 753B.....	80.1	78.0	2.6	18.3	95.3	101.5	99.2	M-high
35	Pioneer Hybrid 336.....	79.6	79.0	.8	18.3	92.8	98.8	100.5	Medium
35	Crow Hybrid 607.....	79.6	78.5	1.4	19.2	92.3	98.3	99.8	M-high
37	Illinois Hybrid 972.....	79.2	78.5	.9	19.6	95.6	101.8	99.8	Medium
38	Farmcraft Hybrid 42.....	78.3	78.1	.3	18.4	95.0	101.2	99.3	M-low
39	Lowe Hybrid 520.....	78.2	77.5	.9	19.6	97.0	103.3	98.5	M-low
40	Lowe Hybrid 560.....	78.1	77.4	.9	19.5	95.0	101.2	98.4	Medium
40	DeKalb Hybrid 847.....	78.1	75.6	3.2	20.6	92.1	98.1	96.1	Medium
42	Pfister Hybrid 260.....	77.8	77.6	.3	18.9	94.6	100.8	98.7	M-low
43	Funk Hybrid G-212.....	77.6	76.7	1.2	18.8	92.5	98.5	97.5	M-high
44	Pioneer Hybrid 334.....	77.3	76.8	.7	20.7	93.5	99.6	97.7	Medium
45	Hoosier-Crost Hybrid F-169.....	77.0	76.4	.8	18.4	94.3	100.4	97.2	Medium
45	U. S. Hybrid 13.....	77.0	75.8	1.6	20.6	92.6	98.6	96.4	Medium
47	Iowa Hybrid 25.....	76.9	76.7	.3	19.2	93.6	99.7	97.5	M-high
48	Pioneer Hybrid 313D.....	76.5	76.0	.6	20.9	93.5	99.6	96.6	M-low
49	Pioneer Hybrid 333.....	76.3	75.8	.6	18.2	95.1	101.3	96.4	Medium
49	Pioneer Hybrid 300.....	76.3	75.4	1.2	22.3	96.0	102.2	95.9	Medium
51	DeKalb Hybrid 720(W).....	75.7	75.5	.3	21.9	90.8	96.7	96.0	High
51	Stiegemeier Hybrid 360.....	75.7	75.3	.5	19.2	88.6	94.4	95.7	M-low
51	Farmcraft Hybrid 66.....	75.7	74.8	1.2	20.7	92.0	98.0	95.1	Medium
51	Hoosier-Crost Hybrid 668.....	75.7	73.6	2.8	20.0	92.8	98.8	93.6	Medium
55	Crow Hybrid 608.....	74.9	73.6	1.7	18.7	93.3	99.4	93.6	Medium
56	Miller Hybrid 1050(W).....	71.7	68.7	4.2	21.2	93.3	99.4	87.4	High
57	Farmcraft Hybrid 47.....	70.9	67.8	4.4	18.6	95.6	101.8	86.2	M-low
58	Pfister Hybrid 360.....	69.2	69.1	.1	19.0	94.6	100.8	87.9	M-low
59	Miller Hybrid 201.....	68.3	66.8	2.2	20.1	97.3	103.6	84.9	M-low
60	Doubet Hybrid D-25.....	65.5	64.8	1.1	20.7	97.5	103.8	82.4	Medium
Average of all entries.....		79.7	78.6	1.4	19.7	93.9	.....	.....	.....

A difference of less than 8.7 bushels between total yields of any two entries in this table is not significant.

Tables 7 & 8.—CORN BORER DAMAGE: Mt. Morris and Milford¹

Rank	Entry	Plants broken below ear	Rank	Entry	Plants broken below ear	
Table 7. Mt. Morris, Northern Illinois						
		percl.			percl.	
1	Moews Hybrid 14.....	0	30	Nichols Hybrid 202.....	3.8	
2	Pfister Hybrid 280.....	.7	32	Pioneer Hybrid 353A.....	3.9	
3	Illinois Hybrid 751.....	1.1	32	Funk Hybrid G-67.....	3.9	
4	Farmcraft Hybrid 39.....	1.2	34	Moews Hybrid 15.....	4.0	
5	Funk Hybrid G-114.....	1.5	35	Funk Hybrid G-16.....	4.3	
6	Illinois Hybrid 1183B.....	1.5	35	Doubet Hybrid D-25.....	4.3	
7	Funk Hybrid G-30.....	1.6	35	Illinois Hybrid 1184A.....	4.3	
8	Nichols Victory.....	1.8	35	Lowe Hybrid 15.....	4.3	
9	Funk Hybrid G-31.....	2.0	39	Pioneer Hybrid 330.....	4.4	
10	Pfister Hybrid 4897.....	2.2	39	Pfister Hybrid 366.....	4.4	
10	Farmcraft Hybrid 42.....	2.2	41	Pioneer Hybrid 340.....	4.5	
12	Furr Hybrid 44A.....	2.3	42	Producers' Hybrid 1010.....	4.7	
13	Funk Hybrid G-29.....	2.5	43	Crow Hybrid 360.....	4.9	
13	DeKalb Hybrid 458.....	2.5	43	Lowe Hybrid 14.....	4.9	
13	Iowealth Hybrid AF-11.....	2.5	45	Furr Hybrid 77A.....	5.0	
16	Funk Hybrid G-23.....	2.6	46	Pfister Hybrid 274.....	5.2	
16	Hoosier-Crost Hybrid F-140.....	2.6	47	Hoosier-Crost Hybrid F138.....	5.3	
16	DeKalb Hybrid 443.....	2.6	47	Crow Hybrid 432.....	5.3	
19	Illinois Hybrid 1180.....	2.7	49	Pioneer Hybrid 324A.....	5.4	
20	Producers' Hybrid 909.....	2.9	49	Pfister Hybrid 260.....	5.4	
21	DeKalb Hybrid 450.....	3.0	51	DeKalb Hybrid 404A.....	5.7	
21	Doubet Hybrid D-1.....	3.0	52	DeKalb Hybrid 422.....	5.8	
23	DeKalb Hybrid 410.....	3.2	53	Nichols Hybrid 5A.....	5.9	
24	Hoosier-Crost Hybrid 405.....	3.3	54	Pioneer Hybrid 342.....	6.1	
25	Illinois Hybrid 219.....	3.4	55	DeKalb Hybrid 615.....	6.4	
26	Furr Hybrid 66A.....	3.5	56	Illinois Hybrid 101.....	6.6	
27	Producers' Hybrid 1020.....	3.6	57	Crow Hybrid 514(W).....	7.2	
27	Nichols Hybrid 202A.....	3.6	58	Furr Hybrid 67A.....	8.0	
27	Pioneer Hybrid 341.....	3.6	59	Illinois Hybrid 2147(W).....	12.7	
30	Pioneer Hybrid 322.....	3.8	60	Illinois Hybrid 2149(W).....	15.9	
Average of all entries.....					4.1	
Table 8. Milford, North-Central Illinois						
1	Pfister Hybrid 380.....	1.3	32	DeKalb Hybrid 817A.....	5.7	
2	Illinois Hybrid 201.....	1.9	33	Farmcraft Hybrid 42.....	6.0	
3	Pfister Hybrid 280.....	2.5	33	Moews Hybrid 830.....	6.0	
3	Pfister Hybrid 5897.....	2.5	35	Pfister Hybrid 260.....	6.1	
5	Hoosier-Crost Hybrid 668.....	2.6	35	Farmcraft Hybrid 89.....	6.1	
6	Pioneer Hybrid 313D.....	2.9	37	DeKalb Hybrid 800A.....	6.2	
7	U. S. Hybrid 35.....	3.1	38	Stiegelmeier Hybrid 360.....	6.4	
8	Iowealth Hybrid 25.....	3.3	39	Hoosier-Crost Hybrid F-169.....	6.5	
9	Pioneer Hybrid 300.....	3.7	40	Farmcraft Hybrid 66.....	6.8	
9	DeKalb Hybrid 720(W).....	3.7	41	U. S. Hybrid 13.....	6.9	
11	Funk Hybrid G-104.....	3.8	42	Stiegelmeier Hybrid 380.....	7.1	
12	Stiegelmeier Hybrid S-200.....	3.9	42	Crow Hybrid 607.....	7.1	
13	Miller Hybrid 201.....	4.1	44	DeKalb Hybrid 840.....	7.3	
14	Illinois Hybrid 21.....	4.2	45	Producers' Hybrid 1030.....	7.5	
14	Pioneer Hybrid 333.....	4.2	46	Funk Hybrid G-94.....	7.9	
14	Doubet Hybrid D-25.....	4.2	47	Pioneer Hybrid 332.....	8.1	
14	DeKalb Hybrid 628A.....	4.2	48	DeKalb Hybrid 816.....	8.3	
18	Lowe Hybrid 520.....	4.3	49	Sibley Hybrid 753B.....	8.4	
19	Pfister Hybrid 4817.....	4.7	50	Funk Hybrid G-212.....	8.8	
20	Holmes Utility Hybrid 39.....	4.8	51	Miller Hybrid 1050(W).....	8.9	
20	Illinois Hybrid 972.....	4.8	52	DeKalb Hybrid 847.....	9.0	
20	Lowe Hybrid 560.....	4.8	53	Seeber Hybrid 11A.....	9.1	
23	National Hybrid 125.....	5.0	54	Crow Hybrid 633.....	9.4	
23	Funk Hybrid G-103.....	5.0	55	Null Hybrid N-54.....	10.2	
25	Pfister Hybrid 360.....	5.1	56	Pioneer Hybrid 336.....	10.8	
26	Pioneer Hybrid 334.....	5.2	57	Producers' Hybrid 1000.....	11.0	
26	Funk Hybrid G-37.....	5.2	58	Illinois Hybrid 200.....	12.0	
28	Crow Hybrid 608.....	5.5	59	Funk Hybrid G-169.....	12.7	
28	Doubet Hybrid D-47.....	5.5	60	Producers' Hybrid FCXX.....	14.4	
28	Farmcraft Hybrid 47.....	5.5	Average of all entries.....			5.6
28	Producers' Hybrid 1040.....	5.5				

¹Includes only those plants broken at point of borer damage.

Table 9.—SOUTH-CENTRAL ILLINOIS: Sullivan

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for—		Compara- tive height of ear
		Total	Sound				Erect plants	Sound yield	
		bu.	bu.	percl.	percl.	percl.	percl.	percl.	
1	Funk Hybrid G-137.....	95.2	94.8	.4	19.3	87.1	90.7	109.3	High
2	Henley and Whisnand Hybrid 831.....	95.0	93.6	1.5	18.1	95.3	99.2	108.0	Medium
3	Producers' Hybrid 1000.....	94.0	93.7	.3	17.9	97.6	101.6	108.1	M-low
4	DeKalb Hybrid 835.....	92.6	92.1	.5	17.6	99.6	103.7	106.2	M-low
5	Miller Hybrid 26.....	92.5	92.3	.2	18.1	97.5	101.5	106.5	Medium
5	Funk Hybrid G-80.....	92.5	92.1	.4	20.1	95.3	99.2	106.2	M-high
5	Pfister Hybrid 160.....	92.5	91.9	.7	17.0	96.3	100.3	106.0	Medium
8	Henley and Whisnand Hybrid 917(W).....	91.9	91.6	.3	19.7	94.5	98.4	105.7	High
8	Henley and Whisnand Hybrid 900(W).....	91.9	88.9	3.3	24.7	89.6	93.3	102.5	High
10	Null Hybrid N-77.....	91.1	90.7	.4	17.6	97.8	101.9	104.6	Medium
11	Funk Hybrid G-104.....	90.9	90.7	.2	18.6	99.6	103.7	104.6	Medium
12	Appl Hybrid 128.....	90.7	90.7	.0	19.1	96.0	100.0	104.6	M-high
13	Moews Hybrid 830.....	90.3	90.1	.2	16.8	97.0	101.0	103.9	Medium
13	U. S. Hybrid 13.....	90.3	90.0	.3	18.1	97.8	101.9	103.8	Medium
15	Producers' Hybrid 1040.....	90.1	89.7	.4	19.5	99.1	103.2	103.5	Medium
16	National Hybrid 125.....	90.0	88.9	1.2	18.8	98.5	102.6	102.5	M-low
17	Pioneer Hybrid 313F.....	89.8	89.4	.4	20.8	97.1	101.1	103.1	M-low
18	DeKalb Hybrid 816.....	89.6	89.3	.3	18.8	95.6	99.6	103.0	M-high
18	lowealth Hybrid 29A.....	89.6	89.2	.4	20.4	98.5	102.6	102.9	M-high
20	Stiegelmeier Hybrid S-200.....	89.5	89.1	.4	20.1	98.5	102.6	102.8	M-high
21	Appl Hybrid A-336.....	89.4	85.6	4.2	19.9	96.8	100.8	98.7	Medium
22	Illinois Hybrid 200.....	89.3	88.6	.8	19.8	96.1	100.1	102.2	M-high
23	Pfister Hybrid 1897.....	89.2	88.0	1.3	18.4	99.0	103.1	101.5	Medium
24	Henley and Whisnand Hybrid 941(W).....	89.1	88.7	.5	21.1	97.3	101.3	102.3	M-high
24	Funk Hybrid G-94.....	89.1	88.7	.4	18.1	96.3	100.3	102.3	Medium
26	Pfister Hybrid 164.....	89.0	88.5	.6	18.4	97.1	101.1	102.1	Medium
27	Illinois Hybrid 201.....	88.8	88.2	.7	17.3	96.6	100.6	101.7	Medium
27	Producers' Hybrid 1030.....	88.8	88.1	.8	18.8	97.8	101.9	101.6	M-low
29	Crow Hybrid 805.....	88.7	88.2	.6	18.1	97.3	101.3	101.7	Medium
30	Farmcraft Hybrid 88.....	88.1	86.2	2.2	19.1	97.6	101.6	99.4	Medium
31	Farmcraft Hybrid 81.....	87.7	87.2	.6	17.3	96.3	100.3	100.6	M-low
32	Hoosier-Crost Hybrid F-169.....	87.5	87.3	.2	18.3	96.3	100.3	100.7	M-low
33	Pioneer Hybrid 336.....	87.4	87.2	.2	18.8	96.3	100.3	100.6	M-low
34	Illinois Hybrid 784.....	87.3	86.8	.6	21.1	89.0	92.7	100.1	High
35	Producers' Hybrid FCXX.....	87.1	87.0	.1	18.1	96.8	100.8	100.3	Medium
35	DeKalb Hybrid 888.....	87.1	86.4	.8	21.1	93.3	97.2	99.7	High
37	Pioneer Hybrid 300.....	86.4	85.3	1.3	20.2	98.5	102.6	98.4	M-low
38	Pioneer Hybrid 332.....	86.2	86.1	.1	20.5	98.8	102.9	99.3	M-low
38	Funk Hybrid G-169.....	86.2	84.9	1.5	19.5	94.6	98.5	97.9	Medium
38	Farmcraft Hybrid 89.....	86.2	83.4	3.3	16.7	97.5	101.5	96.2	M-low
41	Illinois Hybrid 247.....	85.9	85.4	.6	19.5	95.1	99.0	98.5	Medium
42	Henley and Whisnand Hybrid 901(W).....	85.7	85.5	.2	20.5	96.3	100.3	98.6	M-high
43	Hoosier-Crost Hybrid 668.....	85.6	85.5	.1	17.9	97.3	101.3	98.6	M-low
44	Lowe Hybrid 840.....	85.5	84.8	.8	19.5	96.3	100.3	97.8	Medium
45	Crow Hybrid 608.....	85.4	85.1	.4	16.8	95.6	99.6	98.2	Medium
46	Funk Hybrid G-138.....	85.3	85.0	.4	19.5	91.1	94.9	98.0	High
47	Moews Hybrid 523.....	85.2	84.9	.4	16.5	97.8	101.9	97.9	Medium
48	Illinois Hybrid 21.....	84.9	84.6	.4	20.1	97.1	101.1	97.6	Medium
49	Pioneer Hybrid 313D.....	84.8	84.2	.7	16.7	97.1	101.1	97.1	M-low
50	Crow Hybrid 607.....	83.7	83.4	.4	20.5	92.0	95.8	96.2	Medium
51	Hoosier-Crost Hybrid 746.....	83.1	82.9	.3	18.1	97.1	101.1	95.6	Medium
52	Hoosier-Crost Hybrid 840.....	82.9	82.7	.3	18.6	98.1	102.2	95.4	M-low
53	Miller Hybrid 1050(W).....	82.3	82.1	.2	20.1	95.3	99.2	94.7	M-high
54	Illinois Hybrid 126.....	80.1	79.0	1.4	18.1	92.8	96.6	91.1	Medium
55	Funk Hybrid G-583(W).....	78.0	77.0	1.3	24.7	94.1	98.0	88.8	High
56	DeKalb Hybrid 919(W).....	77.9	77.6	.4	19.1	96.3	100.3	89.5	Medium
56	Hoosier-Crost Hybrid 505(W).....	77.9	77.2	.9	17.0	87.3	90.9	89.0	Medium
58	Farmcraft Hybrid 82.....	77.5	77.3	.3	18.4	97.6	101.6	89.2	Low
59	DeKalb Hybrid 922(W).....	74.6	74.3	.4	21.1	91.0	94.8	85.7	M-high
Average of all entries.....		88.8	88.2	.7	19.1	96.0	.....	.....	.....

*Five plots harvested for yield.

A difference of less than 6.3 bushels between total yields of any two entries in this table is not significant.

Table 10.—SOUTHERN ILLINOIS: Alhambra

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Rating for—		Compara- tive height of ear
		Total	Sound				Erect plants	Sound yield	
		bu.	bu.	perct.	perct.	perct.	perct.	perct.	
1	⁴ Kansas Hybrid K-2275(W).....	60.2	60.1	.2	16.8	81.2	88.9	139.4	
2	Illinois Hybrid 784.....	55.2	55.0	.3	20.5	91.6	100.3	127.6	
3	Illinois Hybrid 1243.....	54.8	54.7	.2	17.2	96.2	105.4	126.9	
4	Illinois Hybrid 200.....	52.6	52.4	.4	14.4	91.2	99.9	121.6	
5	⁴ Funk Hybrid G-80.....	52.5	52.3	.4	19.9	99.0	108.4	121.3	
6	⁴ Kansas Hybrid K-1583.....	52.0	51.8	.3	22.9	96.6	105.8	120.2	
7	⁴ Funk Hybrid G-150.....	51.8	51.8	.0	14.6	89.6	98.1	120.2	
7	⁴ Funk Hybrid G-125.....	50.4	50.3	.2	17.2	97.5	106.8	116.7	
8	⁴ DeKalb Hybrid 922(W).....	50.4	50.3	.1	16.2	81.0	88.7	116.7	
10	Crow Hybrid 805.....	50.3	50.2	.2	14.3	98.3	107.7	116.5	
11	⁴ Kansas Hybrid K-2234(W).....	49.3	49.2	.2	18.2	88.3	96.7	114.2	
12	⁴ Illinois Hybrid 877.....	49.2	49.1	.2	17.1	86.0	94.2	113.9	
13	Henley and Whisnand Hybrid 917(W).....	48.9	48.7	.5	17.6	82.5	90.4	113.0	
14	Illinois Hybrid 804.....	48.8	48.8	.1	17.2	93.0	101.9	113.2	
15	⁴ Funk Hybrid G-138.....	48.1	48.1	.1	16.0	97.5	106.8	111.6	
16	⁴ Pfister Hybrid 1823.....	47.8	47.6	.5	14.6	97.5	106.8	110.4	
17	⁴ DeKalb Hybrid 899.....	47.3	46.7	1.3	19.9	90.0	98.6	108.4	
18	⁴ Funk Hybrid G-711.....	46.3	46.2	.2	27.1	87.0	95.3	107.2	
19	⁴ Crow Hybrid 607.....	45.9	45.8	.2	15.8	98.0	107.3	106.3	
20	⁴ Farmcraft Hybrid 133(W).....	45.8	45.7	.2	15.8	70.0	76.7	106.0	
21	⁴ Illinois Hybrid 713.....	45.6	45.4	.4	16.2	97.0	106.2	105.3	
22	⁴ Pioneer Hybrid 313F.....	45.2	45.1	.3	16.6	97.0	106.2	104.6	
23	DeKalb Hybrid 888.....	45.0	44.8	.5	14.6	92.5	101.3	103.9	
24	⁴ Illinois Hybrid 2059(W).....	44.6	44.5	.3	17.6	85.0	93.1	103.2	
24	DeKalb Hybrid 816.....	44.6	44.4	.4	14.9	98.3	107.7	103.0	
26	⁴ Illinois Hybrid 2119(W).....	44.4	44.2	.5	16.8	96.2	105.4	102.6	
27	⁴ Iowa Hybrid 29A.....	43.4	43.2	.4	15.8	83.0	90.9	100.2	
28	Kansas Hybrid K-1585.....	43.2	43.1	.2	19.0	95.0	104.1	100.0	
29	U. S. Hybrid 13.....	43.1	42.8	.6	13.2	94.1	103.1	99.3	
30	Hoosier-Crost Hybrid 840.....	42.9	42.6	.8	16.0	99.1	108.5	98.8	
31	⁴ Pfister Hybrid 1897.....	42.2	42.1	.2	14.1	95.0	104.1	97.7	
32	Producers' Hybrid 1040.....	41.9	41.7	.4	16.8	98.3	107.7	96.8	
33	Funk Hybrid G-527(W).....	41.8	41.8	.0	17.9	84.1	92.1	97.0	
33	⁴ Funk Hybrid G-137.....	41.8	41.5	.8	21.2	91.0	99.7	96.3	
35	Henley and Whisnand Hybrid 901(W).....	41.5	41.3	.6	19.5	86.0	94.2	95.8	
36	⁴ Moews Hybrid 830.....	41.2	40.9	.8	14.3	99.0	108.4	94.9	
37	⁴ Producers' Hybrid 1030.....	40.1	40.0	.2	15.5	91.2	99.9	92.8	
37	DeKalb Hybrid 919(W).....	40.1	40.0	.3	18.2	90.8	99.5	92.8	
39	⁴ Miller Hybrid 1050(W).....	39.9	39.7	.6	17.9	83.0	90.9	92.1	
40	Morgan Hybrid 546.....	39.7	39.5	.6	15.3	97.5	106.8	91.6	
41	Pioneer Hybrid 332.....	39.4	39.3	.3	17.3	93.3	102.2	91.2	
42	⁴ Illinois Hybrid 201.....	39.3	39.1	.5	14.7	95.0	104.1	90.7	
43	⁴ Farmcraft Hybrid 88.....	39.1	38.6	1.3	14.6	89.0	97.5	89.6	
44	⁴ Illinois Hybrid 2077(W).....	38.9	38.7	.4	15.0	83.0	90.9	89.8	
45	⁴ Illinois Hybrid 126.....	38.6	38.3	.7	15.4	87.5	95.8	88.9	
46	Hoosier-Crost Hybrid 746.....	38.3	38.2	.3	15.6	96.3	105.5	88.6	
47	Lewis Hybrid H.S. 120.....	38.2	38.0	.5	14.9	78.3	85.8	88.2	
48	National Hybrid 125.....	38.1	38.0	.2	12.9	90.8	99.5	88.2	
49	⁴ Moews Hybrid 523.....	37.5	37.3	.6	14.1	96.2	105.4	86.5	
50	Lowe Hybrid 840.....	36.9	36.8	.2	14.6	91.6	100.3	85.4	
51	⁴ Henley and Whisnand Hybrid 900(W).....	36.2	35.8	1.0	25.9	75.0	82.1	83.1	
52	⁴ Producers' Hybrid FCXX.....	35.6	35.4	.7	14.6	89.0	97.5	82.1	
53	Pioneer Hybrid 336.....	35.5	35.4	.2	14.6	95.0	104.1	82.1	
54	Pioneer Hybrid 300.....	35.3	35.2	.2	15.1	95.8	104.9	81.7	
55	⁴ National Hybrid 129.....	34.9	34.8	.4	14.3	87.5	95.8	80.7	
56	⁴ Hoosier-Crost Hybrid 707(W).....	33.8	33.6	.5	19.9	91.0	99.7	78.0	
57	⁴ Pioneer Hybrid 313D.....	33.5	33.4	.3	15.4	96.2	105.4	77.5	
58	⁴ Pfister Hybrid 164.....	33.2	33.0	.7	16.1	99.0	108.4	76.6	
59	Hoosier-Crost Hybrid 616.....	28.9	28.4	1.6	16.8	95.0	104.1	65.9	
Average of all entries.....		43.2	43.1	.4	16.7	91.3	.....	.....

⁴Five plots harvested. ⁴Four plots harvested. ⁴Three plots harvested.

Table 11.—EXTREME SOUTHERN ILLINOIS:
Bottom Land, Dixon Springs

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for—		Compara- tive height of ear
		Total	Sound				Erect plants	Sound yield	
		bu.	bu.	perct.	perct.	perct.	perct.	perct.	
1	Funk Hybrid G-711.....	70.2	68.8	2.0	30.7	95.0	100.3	131.3	Medium
2	Kansas Hybrid K-2275(W).....	66.1	65.7	.6	24.2	88.3	93.2	125.4	M-high
3	Illinois Hybrid 877.....	65.6	64.9	1.0	23.8	87.5	92.4	123.9	Medium
4	Illinois Hybrid 2119(W).....	64.7	62.8	3.0	25.0	96.6	102.0	119.8	M-high
5	Henley and Whisnand Hybrid 917(W).....	64.1	63.2	1.4	26.3	95.0	100.3	120.6	M-high
6	Kansas Hybrid K-1583.....	63.1	60.7	3.8	27.0	95.0	100.3	115.8	M-high
7	Kansas Hybrid K-2234(W).....	62.4	61.3	1.7	27.0	97.5	103.0	117.0	M-high
8	Illinois Hybrid 2023B(W).....	61.3	59.3	3.2	26.3	90.0	95.0	113.2	M-high
9	Pioneer Hybrid 332.....	60.2	58.6	2.6	21.4	97.5	103.0	111.8	M-low
10	Illinois Hybrid 2077(W).....	60.1	59.2	1.5	24.2	92.5	97.7	113.0	Medium
11	Farmcraft Hybrid 133(W).....	59.8	59.0	1.4	23.4	95.0	100.3	112.6	Medium
12	Henley and Whisnand Hybrid 900(W).....	59.4	58.3	1.9	28.2	98.3	103.8	111.3	M-high
13	Funk Hybrid G-150.....	58.9	58.5	.7	27.6	91.6	96.7	111.6	High
13	Hoosier-Crost Hybrid 707(W).....	58.9	57.7	2.0	25.5	96.6	102.0	110.1	Medium
15	Illinois Hybrid 2019B(W).....	57.8	57.0	1.4	23.8	96.6	102.0	108.8	Medium
16	Kansas Hybrid K-1585.....	57.4	56.0	2.4	27.0	99.1	104.6	106.9	M-high
16	Illinois Hybrid 2059(W).....	57.4	54.9	4.3	23.2	93.3	98.5	104.8	Medium
18	Illinois Hybrid 2120(W).....	56.7	56.1	1.0	27.6	95.8	101.2	107.1	M-high
19	Funk Hybrid G-527(W).....	56.6	55.7	1.6	25.0	84.1	88.8	106.3	M-high
19	Illinois Hybrid 1239.....	56.6	55.2	2.5	23.0	97.5	103.0	105.3	Medium
21	Funk Hybrid G-137.....	55.8	55.2	1.0	26.3	95.8	101.2	105.3	Medium
22	lowealth Hybrid 25A.....	55.2	54.3	1.6	25.8	98.3	103.8	103.6	M-high
22	Illinois Hybrid 1238B.....	55.2	53.6	2.9	23.4	94.1	99.4	102.3	M-low
24	Funk Hybrid G-90.....	54.8	53.8	1.8	25.5	92.5	97.7	102.7	Medium
24	Funk Hybrid G-135.....	54.8	53.5	2.3	28.2	96.6	102.0	102.1	M-high
26	Henley and Whisnand Hybrid 901(W).....	54.7	54.2	1.0	25.0	95.8	101.2	103.4	Medium
27	DeKalb Hybrid 922(W).....	54.6	53.3	2.4	21.1	94.1	99.4	101.7	Medium
28	Producers' Hybrid 1040.....	54.3	53.0	2.4	19.4	97.5	103.0	101.1	Low
29	Illinois Hybrid 1241.....	54.0	53.1	1.6	22.0	97.5	103.0	101.3	Medium
29	Illinois Hybrid 804.....	54.0	53.0	1.8	22.8	97.5	103.0	101.1	Medium
31	Farmcraft Hybrid 88.....	53.4	52.1	2.5	22.6	88.3	93.2	99.4	M-low
31	Hoosier-Crost Hybrid 840.....	53.3	51.6	3.1	22.8	97.5	103.0	98.5	M-low
33	Funk Hybrid G-125.....	53.0	52.4	1.1	22.8	98.3	103.8	100.0	M-high
34	DeKalb Hybrid 888.....	52.7	51.9	1.5	24.2	98.3	103.8	99.0	M-low
35	Miller Hybrid 1050(W).....	52.4	51.7	1.3	25.5	95.8	101.2	98.7	Medium
36	Illinois Hybrid 713.....	52.3	51.3	2.0	23.2	94.1	99.4	97.9	M-low
37	Illinois Hybrid 126.....	52.2	51.3	1.8	21.4	94.1	99.4	97.9	M-low
37	DeKalb Hybrid 816.....	52.2	51.2	2.0	17.8	95.8	101.2	97.7	M-low
39	Funk Hybrid G-138.....	51.9	51.0	1.8	26.3	94.1	99.4	97.3	M-high
40	Producers' Hybrid 777.....	51.7	50.9	1.6	19.4	92.5	97.7	97.1	Medium
41	Pioneer Hybrid 313F.....	51.1	49.5	3.1	22.3	93.3	98.5	94.5	M-low
41	Producers' Hybrid FCXX.....	51.1	49.2	3.8	22.6	94.1	99.4	93.9	M-low
43	Moews Hybrid 830.....	50.5	49.0	2.9	19.0	95.8	101.2	93.5	M-low
44	DeKalb Hybrid 899.....	50.4	49.2	2.4	27.0	94.1	99.4	93.9	M-high
45	Moews Hybrid 523.....	50.0	48.6	2.8	18.4	94.1	99.4	92.7	M-low
46	Pioneer Hybrid 300.....	49.9	47.6	4.7	19.8	95.0	100.3	90.8	M-low
46	Illinois Hybrid 784.....	48.3	47.6	1.4	27.0	92.5	97.7	90.8	Medium
47	Illinois Hybrid 200.....	48.3	47.1	2.4	20.8	95.0	100.3	89.9	Medium
49	National Hybrid 129.....	46.3	44.7	3.4	23.0	95.8	101.2	85.3	M-low
50	U. S. Hybrid 13.....	45.3	44.6	1.6	20.8	95.0	100.3	85.1	M-low
50	Illinois Hybrid 1233.....	45.3	43.7	3.6	23.2	97.5	103.0	83.4	Medium
52	Lewis Hybrid HS-120.....	44.0	43.1	2.0	21.4	88.3	93.2	82.3	M-low
53	Lowe Hybrid 840.....	43.9	43.3	1.4	26.3	96.6	102.0	82.6	Low
54	Pioneer Hybrid 313D.....	42.3	41.6	1.7	20.8	95.0	100.3	79.4	M-low
55	Miller Hybrid 26.....	42.2	40.8	3.3	20.4	90.0	95.0	77.9	M-low
56	Hoosier-Crost Hybrid 746.....	40.9	40.0	2.2	20.4	95.8	101.2	76.3	Low
57	Hoosier-Crost Hybrid F-169.....	40.8	40.1	1.6	19.4	92.5	97.7	76.5	Low
58	Pioneer Hybrid 336.....	39.7	38.8	2.2	20.8	98.3	103.8	74.0	Low
59	DeKalb Hybrid 919(W).....	36.0	35.1	2.4	22.3	95.8	101.2	67.0*	M-low
Average of all entries.....		53.5	52.4	2.1	23.6	94.7	.....	.....	.....

A difference of less than 13.9 bushels between total yields of any two entries in this table is not significant.

**Table 12.—EXTREME SOUTHERN ILLINOIS:
Upland, Dixon Springs**

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for—	
		Total	Sound				Erect plants	Sound yield
		<i>bu.</i>	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>
1	Illinois Hybrid 2059(W).....	44.3	43.6	1.5	19.0	90.8	104.5	125.6
2	Illinois Hybrid 801.....	40.0	39.8	.5	20.4	89.1	102.5	114.7
3	Illinois Hybrid 200.....	39.6	39.1	1.2	16.9	88.3	101.6	112.7
4	Illinois Hybrid 877.....	38.8	38.5	.7	19.4	88.3	101.6	111.0
5	Illinois Hybrid 2119(W).....	38.5	37.7	2.0	19.8	88.3	101.6	108.6
6	Illinois Hybrid 448.....	38.0	37.4	1.7	18.4	87.5	100.7	107.8
7	Illinois Hybrid 804.....	37.1	36.8	.8	19.0	88.3	101.6	106.1
8	Illinois Hybrid 713.....	35.1	34.6	1.3	20.4	84.2	96.9	99.7
9	Illinois Hybrid 206.....	34.7	34.4	1.0	16.7	84.1	96.8	99.1
10	U. S. Hybrid 13.....	34.6	32.9	5.0	21.7	88.3	101.6	94.8
11	Illinois Hybrid 1245.....	31.9	31.5	1.4	19.8	90.8	104.5	90.8
12	Sager Hybrid 33(W).....	30.5	30.3	.8	25.0	86.6	99.7	87.3
13	Illinois Hybrid 885A.....	25.1	24.8	1.1	22.8	82.5	94.9	71.5
14	Illinois Hybrid 784.....	24.5	24.0	1.9	22.6	79.1	91.0	69.2
Average of all entries.....		35.2	34.7	1.5	20.1	86.9	.....	.....

A difference of less than 9.9 bushels between total yields of
any two entries in this table is not significant.

Table 13.—SOIL ADAPTATION TEST: Central Illinois, Urbana

Rank	Entry	Acre-yield		Damaged corn in shelled sample	Mois- ture in grain at harvest
		Total	Sound		
HIGHLY PRODUCTIVE SOIL: Sidell Silt Loam, gently sloping phase, and Flanagan Silt Loam (Southwest rotation)					
		<i>bu.</i>	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>
1	Illinois Hybrid 972-1.....	106.6	105.9	.7	15.8
2	Illinois Hybrid 246.....	105.1	104.7	.4	18.0
3	Illinois Hybrid 201.....	105.0	104.1	.9	18.7
4	U. S. Hybrid 13.....	103.7	103.1	.6	18.0
5	Illinois Hybrid 21-1.....	102.9	102.3	.6	18.1
6	Illinois Hybrid 784.....	102.8	102.0	.8	21.8
7	Illinois Hybrid 206.....	101.7	101.3	.4	16.9
8	Illinois Hybrid 751.....	91.2	90.6	.7	17.4
9	Illinois Hybrid 101.....	88.3	88.0	.3	15.6
	Average.....	100.8	100.2	.6	17.8

A difference of less than 3.4 bushels between total yields of
any two of the above entries is not significant.

**MEDIUM PRODUCTIVE SOIL: Drummer Silty Clay Loam, slightly grayish phase, and
Sidell Silt Loam, gently sloping phase (South-Central rotation)**

		<i>bu.</i>	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>
1	Illinois Hybrid 784.....	68.8	68.4	.6	19.1
2	Illinois Hybrid 21-1.....	68.0	67.3	1.1	15.8
3	U. S. Hybrid 13.....	67.4	66.6	1.2	16.9
4	Illinois Hybrid 201.....	67.2	66.4	1.2	15.1
5	Illinois Hybrid 972-1.....	66.8	66.3	.5	16.1
6	Illinois Hybrid 206.....	65.1	64.5	1.0	16.4
7	Illinois Hybrid 246.....	63.3	62.9	.6	16.0
8	Illinois Hybrid 751.....	61.4	61.1	.5	15.0
9	Illinois Hybrid 101.....	53.9	53.5	.8	14.6
Average.....		64.7	64.1	.9	16.1

A difference of less than 6.6 bushels between total yields of
any two of the above entries is not significant.

The soil types on these two Urbana fields were determined by HERMAN L. WASCHER,
Assistant Chief in Soil Survey.

Table 14.—SOIL ADAPTATION TEST: Urbana, Some Differences Between Corn Hybrids Grown on Soil of Two Levels of Productivity, High and Medium

Hybrid	Pedigree		Differences in—		
	Inbreds common to hybrids in group	Inbreds that were different in group	Total yield	Bushel weight	Weight of 2,000 kernels
			<i>bu.</i>	<i>lb.</i>	<i>grams</i>
U. S. Hybrid 13.....	WF9, 38-11, L317	Hy	36.3	+ .6	6.7
Illinois Hybrid 201.....	WF9, 38-11, L317	187-2	37.8	.8	52.7
Illinois Hybrid 206.....	WF9, 38-11, L317	5120	36.6	.5	3.1
U. S. Hybrid 13.....	WF9, 38-11, Hy	L317	36.3	+ .6	6.7
Illinois Hybrid 21-1.....	WF9, 38-11, Hy	Kr (OsQ)	34.9	+ .2	37.5
Illinois Hybrid 246.....	WF9, Hy, L317	187-2	41.8	1.0	13.5
Illinois Hybrid 972-1.....	WF9, Hy, L317	O7	39.8	.2	22.7
Illinois Hybrid 206.....	5120, L317	WF9, 38-11	36.6	.5	3.1
Illinois Hybrid 784.....	5120, L317	Hy, K4	34.0	+1.1	42.3
Illinois Hybrid 246.....	WF9, Hy	187-2, L317	41.8	1.0	13.5
Illinois Hybrid 751.....	WF9, Hy	A, 90	29.8	.1	69.2
Illinois Hybrid 201.....	WF9, 187-2	38-11, L317	37.8	.8	52.7
Illinois Hybrid 101.....	WF9, 187-2	M14, CC7	34.4	.0	21.1
Average.....			36.2	.1	29.9

INTERPRETING RESULTS

Only one season's performance of hybrid corn is recorded here. While one year's tests are of much more value than no tests at all, they are not a final index to a hybrid's value. In another season or on another soil type the same hybrid might perform very differently. This fact must be kept in mind when passing judgment on any entry.

For a hybrid that has been grown on several fields at different locations in the state, a year's tests may give a fairly reliable index to range of adaptability. If the hybrid ranks high on several fields and low on none, it is likely to be a good hybrid and have wide adaptation.

Of course yield of grain is not the only consideration in appraising a hybrid. Time of maturing, ability to stand, amount of damaged corn, all are important considerations. Moisture content at harvest compared with that of other entries in the test gives the best measure of maturity. Ability to stand was not put to severe test in 1943; and the amount of damaged corn was so low in these tests that the records on that point have little value as a basis for choosing a hybrid.

Height of ear is of interest partly because it determines a hybrid's suitability for hand husking and also because it affects lodging resistance. Data on this point, included in the last column of the main tables, will help to give a picture of the hybrids as they grew in the tests.

SOIL ADAPTATION TEST

Nine double-cross hybrids were tested at Urbana in 1943 on two fields of different fertility levels. One test was on a well-improved, highly fertile soil; the other, on a soil medium to low in productivity.

Season. Heavy rains prevented planting of the test fields until June 1. Conditions later in the season were generally favorable although rainfall was light during the latter part of the summer. Slight injury from cutworms occurred on the highly productive field.

Planting. The entries in this test were planted in 16 replications on each field. Each plot was 4 rows wide and 10 hills long and the middle two rows were harvested for yield. One kernel more per hill than the desired stand was planted and the hills were thinned after the first cultivation, so that a very good stand was obtained.

Soils. The two areas used for the tests are on the Agronomy South Farm and differ in productivity as a result of the long-continued use of different cropping systems. In the Southwest rotation a high state of productivity has been maintained by a systematic rotation of corn, oats, clover hay, and wheat with a red clover catch crop. The South-Central area has been depleted of fertility by a rotation of corn, corn, corn, and soybeans. Both fields have received manure and phosphate. The soil type of the two fields is mainly Sidell silt loam.

1943 results. The average yield on the more fertile field was 100.8 bushels an acre and that on the less fertile field was 64.7 bushels, or approximately two-thirds of that on the better field (Table 13).

In these tests Illinois Hybrids 972-1 and 246 ranked distinctly higher on the soil of high productivity than on that of medium productivity. Two hybrids, Illinois Hybrid 201 and U. S. Hybrid 13, gave high yields on both productivity levels. Illinois Hybrids 784 and 21-1 ranked first and second respectively on the less fertile field and midway or below on the better field. Illinois Hybrid 206, although above average in yield, dropped below the midpoint in rank. Illinois Hybrids 751 and 101 matured too early to yield high in central Illinois.

Differences in the performances of the hybrids when grown on the two fields can be seen in Table 14. Illinois Hybrid 751 showed the least reduction in yield on the less fertile soil. Listed in the order of increasing difference, the other hybrids stand as follows: Illinois 784, 101, 21-1, U. S. 13, Illinois 206, 972-1 and 246.

Density of grain as measured by test weight per bushel varied on the two fields. Some hybrids had a higher test weight on the less productive soil than on the more productive soil, while with some others the reverse was true. Illinois 784, U. S. 13, and Illinois 21-1 had a higher test weight on the less productive soil, and Illinois 101, 751, 972-1, 206, 201, and 246 had a higher test weight on the more productive soil.

The grain produced by these hybrids on the two fields differed also in size of kernel, which was without exception smaller on the field of medium productivity. Listed in the order of increasing reduction in kernel size, the nine hybrids stand as follows: Illinois 206, U. S. 13, Illinois 246, 101, 972-1, 21-1, 784, 201, and 751.

Not all hybrids exhibited the same kind of changes when grown on the less productive field. Illinois 751, for instance, showed the least reduction in yield (29.8 bushels) but the most reduction in weight of individual kernels. Its test weight was changed only slightly. U. S. 13, which has been considered well suited to soils of widely different productivity, showed, on the medium-productive soil, a very small reduction in size of kernel and an increase in test weight. Illinois 784, on the other hand, increased markedly in test weight but produced considerably smaller kernels. Illinois 246 showed the greatest reduction in yield, had slightly smaller kernels and a considerably lower test weight when grown on the less productive field.

SUMMARY

1. A total of 208 hybrids were grown in 1943 on seven fields and on soils of two levels of productivity. Altho planted late, all the test fields except the one at Alhambra had good stands and favorable conditions for the growing and maturing of the crop.

2. Southern corn rootworm caused more damage than usual in the early part of the season, but injury later was negligible except on the Galesburg field, where it caused lodging in 8.9 percent of the plants.

3. Corn borer damage caused an average of 5.6 percent of the stalks to break at Milford; 4.1 percent at Mt. Morris; and 1.6 percent at Galesburg.

4. Root rots caused considerable damage in poorly drained parts of fields, especially at Alhambra. Diplodia stalk rot caused appreciable loss in some fields.

5. The test field having the highest average yield, 112.9 bushels an acre, was the one at Galesburg. The lowest average yield, 35.2 bushels an acre, was obtained on the upland field at the Dixon Springs Experiment Station at Robbs.

6. Altho the range in yield between different entries on the same field was wide enough to indicate that some hybrids were significantly better than others, the general level of yields clearly shows that most commercial seedsmen are producing high-yielding hybrid seed corn (*Tables 3, 4, 6, and 9 to 12*).

7. Nine hybrids grown on the same farm on two different levels of productivity yielded an average of 100.8 bushels an acre on the highly productive soil and 64.7 bushels on the medium-productive soil. Test weight and size of kernel were also different on the two fields.

8. Ninety-six percent of the Illinois land devoted to corn production in 1943 was planted with hybrid seed. For six years (since 1938) hybrid corn has occupied more than 50 percent of the corn acreage in Illinois. During this period the average corn yield has been 49.6 bushels an acre. For the six years prior to 1938 the average yield was only 33.6 bushels. This is an increase of 48 percent, much of which can be attributed to the more extensive use of hybrid corn.

PEDIGREES OF ILLINOIS AND U. S. HYBRIDS

Following is a partial list of Illinois and U. S. hybrids. The performance of those that are starred is shown in this bulletin. The Illinois hybrid number for a pedigree represents the manner in which the lines were originally combined. The letter A or B following a number indicates that the same four lines are arranged in a different order. A dash and a number following an Illinois hybrid number indicates the substitution of an improved related line for the original line.

- | | |
|--|--|
| *Ill. 21.... (WF9 × 38-11) (Hy × 187-2) | Ill. 1075..... (4-8 × Hy) (R4 × L317) |
| Ill. 21-1... (WF9 × 38-11) (Hy × Kr (Osf)) | Ill. 1085..... (CC5 × CC7) (WF9 × A) |
| Ill. 53.... (WF9 × M14) (Pr × I205) | Ill. 1091..... (WF9 × M14) (Hy × 187-2) |
| Ill. 99.... (CC5 × CC7) (WF9 × CC1) | Ill. 1219A.... (CC5 × CC7) (L289 × 187-2) |
| *Ill. 101.... (WF9 × M14) (CC7 × 187-2) | Ill. 1158..... (WF9 × 38-11) (I198 × 187-2) |
| Ill. 110.... (38-11 × Kys) (Tr × L317) | Ill. 1173..... (RR98 × 187-2) (WF9 × Hy) |
| *Ill. 126.... (WF9 × 38-11) (Tr × L317) | Ill. 1174..... (RR98 × 187-2) (Hy × L317) |
| Ill. 139.... (WF9 × 38-11) (R4 × L317) | *Ill. 1180..... (WF9 × M14) (CC10 × CC24) |
| Ill. 172.... (R4 × Hy) (A × 540) | *Ill. 1183B.... (WF9 × M14) (CC10 × R2) |
| *Ill. 200.... (WF9 × 38-11) (K4 × L317) | *Ill. 1184..... (WF9 × R2) (CC24 × 187-2) |
| *Ill. 201.... (WF9 × 38-11) (187-2 × L317) | Ill. 1194..... (CC5 × CC7) (WF9 × CC10) |
| Ill. 205.... (WF9 × 38-11) (159L1 × L317) | Ill. 1195..... (WF9 × CC10) (CC7 × 187-2) |
| *Ill. 206.... (WF9 × 38-11) (5120 × L317) | Ill. 1201..... (CC5 × CC7) (CC10 × 187-2) |
| Ill. 212.... (WF9 × 38-11) (4-8 × 187-2) | Ill. 1206..... (WF9 × R2) (CC7 × 187-2) |
| *Ill. 219.... (CC5 × CC7) (WF9 × Hy) | *Ill. 1233..... (WF9 × 38-11) (940 × L317) |
| Ill. 227.... (WF9 × 38-11) (Hy × Tr) | Ill. 1234..... (WF9 × CC10) (R2 × 187-2) |
| *Ill. 246.... (WF9 × Hy) (187-2 × L317) | *Ill. 1238..... (WF9 × 38-11) (940 × G) |
| *Ill. 247.... (187-2 × 38-11) (Hy × L317) | *Ill. 1239..... (K166 × L317) (297 × 38-11) |
| Ill. 255.... (WF9 × 38-11) (159L1 × 187-2) | *Ill. 1241..... (297 × 38-11) (K171 × K180) |
| Ill. 257.... (Hy × 187-2) (701 × L317) | *Ill. 1243..... (297 × 38-11) (K180 × K4) |
| Ill. 262.... (WF9 × M14) (187-2 × L317) | *Ill. 1245..... (5120 × Kr (Osf)) (38-11 × L317) |
| Ill. 269.... (CC10 × CC24) (WF9 × Hy) | Ill. 2003(W)... (K6 × 33-16) (CI.43 × CI.61) |
| Ill. 272.... (WF9 × CC10) (A375 × 101) | Ill. 2007(W)... (CI.43 × K6) (Ky27 × CI.61) |
| Ill. 273-1... (WF9 × 38-11) (187-2 × O7) | *Ill. 2019B(W)... (Ky27 × CI.61) (R30 × 33-16) |
| Ill. 274-1... (WF9 × Hy) (187-2 × O7) | Ill. 2020(W)... (K6 × 33-16) (R30 × K6 × CI.61) |
| Ill. 278.... (CC10 × CC24) (WF9 × A) | *Ill. 2023B(W)... (Ky27 × CI.24) (K6 × 33-16) |
| Ill. 288.... (WF9 × Hy) (K4 × 38-11) | Ill. 2043(W)... (33-16 × K6) (Ky27 × CI.43) |
| Ill. 350.... (WF9 × R4) (187-2 × L317) | *Ill. 2059(W)... (Ky27 × CI.61) (33-16 × K6) |
| Ill. 374.... (R4 × Hy) (187-2 × L317) | *Ill. 2077(W)... (33-16 × CI.61) (Ky27 × CI.43) |
| Ill. 437.... (WF9 × Hy) (K4 × L317) | Ill. 2097(W)... (CI.43 × 33-16) (Ky27 × R30) |
| *Ill. 448.... (Kys × 38-11) (K4 × L317) | Ill. 2099B(W)... (Ky27 × CI.61) (33-16) |
| Ill. 450.... (R4 × Kys) (K4 × L317) | Ill. 2101(W)... (CI.43 × Ky27) (CI.24 × CI.61) |
| Ill. 500-1... (WF9 × 38-11) (O7 × L317) | Ill. 2117(W)... (Ky27 × CI.61) (H21 × 33-16) |
| Ill. 501.... (WF9 × 38-11) (Hy × 5120) | Ill. 2118(W)... (Ky27 × CI.61) (H21 × K6) |
| Ill. 565.... (38-11 × G) (K4 × L317) | *Ill. 2119(W)... (Ky27 × CI.61) (33-16 × K64) |
| Ill. 692.... (A × 90) (WF9 × 420) | *Ill. 2120(W)... (Ky27 × CI.61) (K6 × K64) |
| Ill. 697.... (CC10 × CC24) (WF9 × 101) | Ill. 2122(W)... (Ky27 × CI.61) (K44 × K64) |
| Ill. 710.... (R4 × Hy) (Tr × L317) | Ill. 2123(W)... (Ky27 × CI.61) (K60 × K64) |
| *Ill. 713.... (WF9 × 38-11) (G × L317) | Ill. 2124(W)... (Ky27 × CI.61) (K44 × K60) |

Ill. 716... (WF9 × Hy) (38-11 × L317)	Ill. 2131(W)... (R47 × 33-16) (C1.43 × K6)
*Ill. 751... (A × 90) (WF9 × Hy)	Ill. 2135(W)... (R49 × Ky27) (C1.43 × K6)
*Ill. 784... (Hy × 5120) (K4 × L317)	*Ill. 2147(W)... (4 Co 42 × 4 Co 82) (R47 × 33-16)
*Ill. 801... (5120 × Kys) (K4 × L317)	*Ill. 2149(W)... (4 Co 46 × 4 Co 63) (R47 × 33-16)
*Ill. 804... (5120 × 38-11) (K4 × L317)	Ill. 2156(W)... (4 Co 63 × 4 Co 82) (Ky 50 × R49)
Ill. 805... (187-2 × 38-11) (K4 × L317)	Ill. 2157(W)... (Ky27 × C1.61) (H21 × K44)
Ill. 863... (R4 × Hy) (K4 × L317)	Ill. 2158(W)... (33-16 × C1.61) (H21 × K64)
*Ill. 885A... (R4 × 38-11) (K4 × L317)	Ill. 2159(W)... (Ky27 × C1.61) (H21 × K64)
*Ill. 877... (R4 × Pr) (K4 × L317)	*U.S. 5... (R4 × L317) (WF9 × 38-11)
Ill. 899... (CC5 × CC7) (R4 × WF9)	*U.S. 13... (Hy × L317) (WF9 × 38-11)
Ill. 923... (WF9 × Hy) (R4 × 40B)	*U.S. 35... (WF9 × 38-11) (R4 × Hy)
Ill. 944... (WF9 × Hy) (R4 × L317)	*U.S. 44... (187-2 × 4-8) (Hy × 540)
Ill. 960... (R4 × Hy) (701 × L317)	
Ill. 972... (WF9 × Hy) (701 × L317)	
*Ill. 972-1... (WF9 × Hy) (O7 × L317)	
Ill. 976... (WF9 × R4) (Hy × 540)	

CONTRIBUTORS OF SEED

Appl Hybrids.....	Charles A. Appl.....	St. Joseph
Crow Hybrids.....	Crow Hybrid Corn Co.....	Milford
DeKalb Hybrids.....	DeKalb Agricultural Assn.....	DeKalb
Doubet Hybrids.....	E. W. Doubet.....	Hanna City
Farmcraft Hybrids.....	Farmcraft Seed Co.....	Oxford, Ind.
Funk Hybrids.....	Funk Bros. Seed Co.....	Bloomington
Furr Hybrids.....	Kenneth Furr.....	Genoa
Henley & Whisnand Hybrids.....	Thomas Henley.....	Arcola
	Myron Whisnand.....	Arcola
Holmes Utility Hybrids.....	C. W. & Z. M. Holmes.....	Edelstein
Hoosier-Crost Hybrids.....	Edw. J. Funk & Sons.....	Kentland, Ind.
Illinois Hybrids 21, 101, 126, 200, 201, 206, 219, 246, 247, 448, 713, 751, 784, 801, 804, 885A, 877, 972.....	Ill. Crop Improvement Assn.....	Urbana
Illinois Hybrids 21-1, 972-1.....	Charles A. Appl.....	St. Joseph
Illinois Hybrids 1180, 1183B, 1184A, 1233, 1238B, 1239, 1241, 1243, 1245, 2019B(W), 2023B(W), 2059(W), 2077(W), 2119(W), 2120(W), 2147(W).....	Ill. Agr. Exp. Sta.....	Urbana
Iowa Hybrids.....	Michael-Leonard Seed Co.....	Normal
Kansas Hybrids.....	Kansas Agr. Exp. Sta.....	Manhattan, Kan.
Lewis Hybrid.....	Lewis Seed Company.....	Louisville, Ky.
Lowe Hybrids.....	L. L. Lowe.....	Aroma Park
Miller Hybrids.....	B. A. Miller & Son.....	Forrest
Moews Hybrids.....	B. E. Moews.....	Granville
Morgan Hybrids.....	Morgan Brothers.....	Galva
National Hybrids.....	National Hybrid Corn Co.....	Hudson
Nichols Hybrids.....	Nichols Brothers.....	Hebron
Null Hybrids.....	Null Seed Farms.....	Colchester
Pfister Hybrids.....	Pfister Hybrid Corn Co.....	El Paso
Pioneer Hybrids.....	Pioneer Hi-Bred Corn Co.....	Princeton
Producers' Hybrids.....	Producers' Crop Imp. Assn.....	Piper City
Sager Hybrid.....	Troy Sager.....	Kell
Seeber Hybrid.....	Seeber Brothers.....	Champaign
Sibley Hybrid.....	Sibley Farms.....	Sibley
Stiegelmeier Hybrids.....	H. L. Stiegelmeier.....	Normal
U. S. Hybrids 13, 35, 44.....	Ill. Crop Improvement Assn.....	Urbana

(¹Seed supplied by the Illinois Crop Improvement Association consisted of a composite of the samples of the respective hybrids submitted for the laboratory test required for certification in 1942.)

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